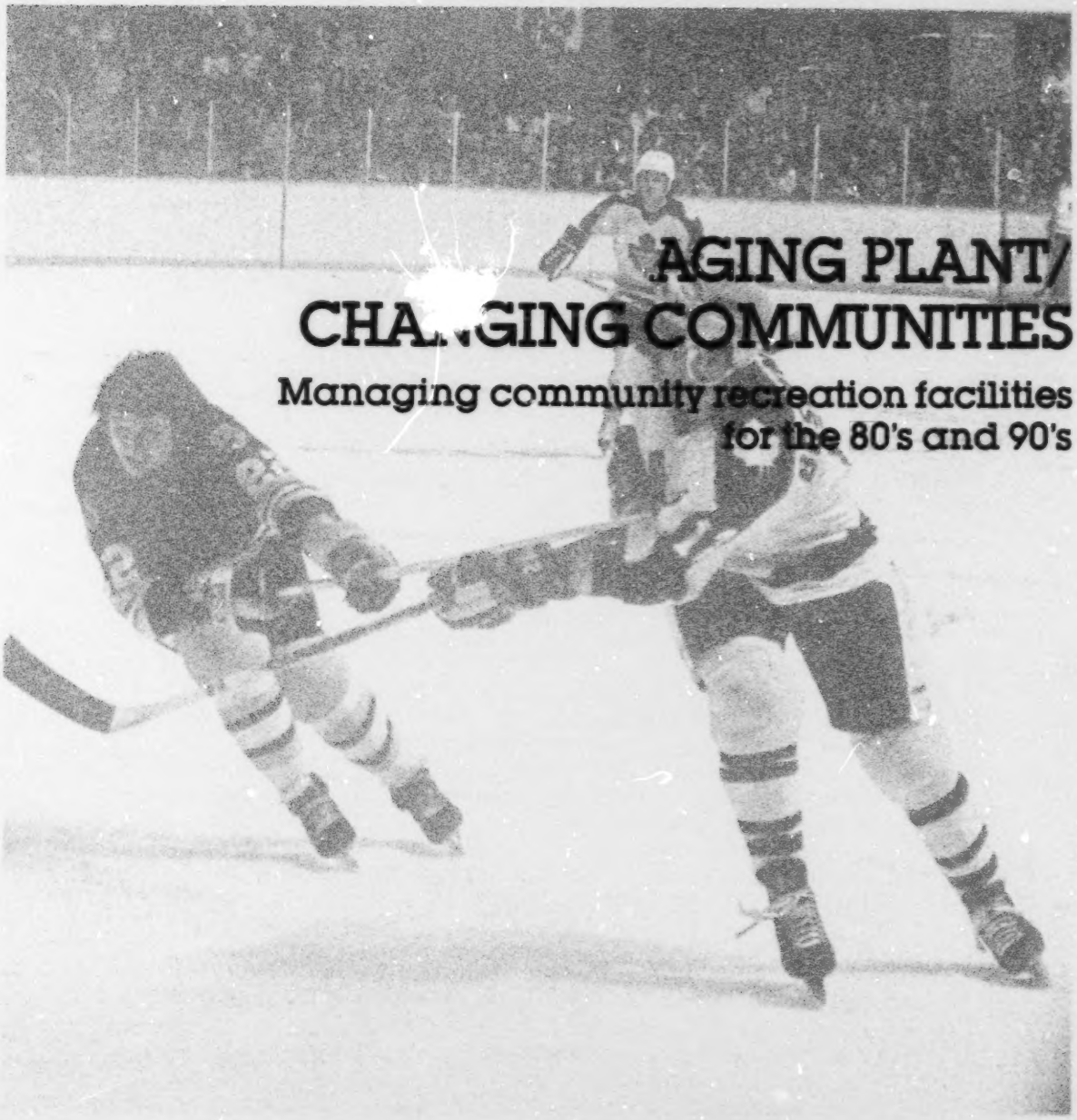

AGING PLANT/ CHANGING COMMUNITIES

Managing community recreation facilities for the 80's and 90's

Ontario

Ministry of Tourism and Recreation

84-4113/

Ontario

ONTARIO yours to discover/.

Office of the Minister

Ministry of Tourism and Recreation

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Toronto, Ontario
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During the 1960's and 70's, municipalities, community organizations and the province joined together to meet the expanding recreation needs of Ontario. From this partnership grew a "big generation" of valuable recreation facilities throughout the province, facilities that will serve us into the next century.

Today, as all levels of government adjust to the economic circumstances of the 1980's, two important issues must be considered in response to the future of recreation facilities.

First, there has emerged the potential for a false sense of security concerning recreation facilities. We now recognize that as facilities age, new capital investments are required to conserve them in a safe and usable condition. This is natural and customary for all types of buildings. It is also an obligation for all responsible recreation managers.

Second, the province's age composition is changing as the post-war "baby boom" generation gets older. Consequently, many of the facilities that were planned and designed around this generation will need to undergo changes as well. We are aging. And, we have more leisure time. Alterations to existing facilities and the introduction of new facilities to accommodate changing users will require additional resources in the next decade.

In many ways, the action initiated now to address these two issues will determine our ability to meet community recreation needs over the next 10 to 15 years. It is my pleasure to present this report as a comprehensive resource tool to stimulate action. As Minister of Tourism and Recreation, I am confident that we will meet this challenge to continue to provide quality recreation services throughout the province.

Sincerely,

Reuben C. Baetz
Minister

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Challenges for community recreation facilities

INTRODUCTION

In January 1984, the Ministry of Tourism and Recreation invited the Klein/McInnis Group of planning consultants to examine two long-term issues involving Ontario's community recreation facilities:

1. The impact of the physical aging of existing recreation buildings.

2. The impact of changes in the social and demographic characteristics of Ontario's communities.

The results of the examination identified TWO important tasks that the province, municipalities and community organizations now face:

1. Protecting the existing public investment in recreation facilities.

2. Making changes to meet new community needs.

The Ministry is indebted to the five municipalities that participated in the Klein/McInnis study. Without their assistance, this report could not have been produced.

A BIG GENERATION OF RECREATION FACILITIES

The Years of Plenty

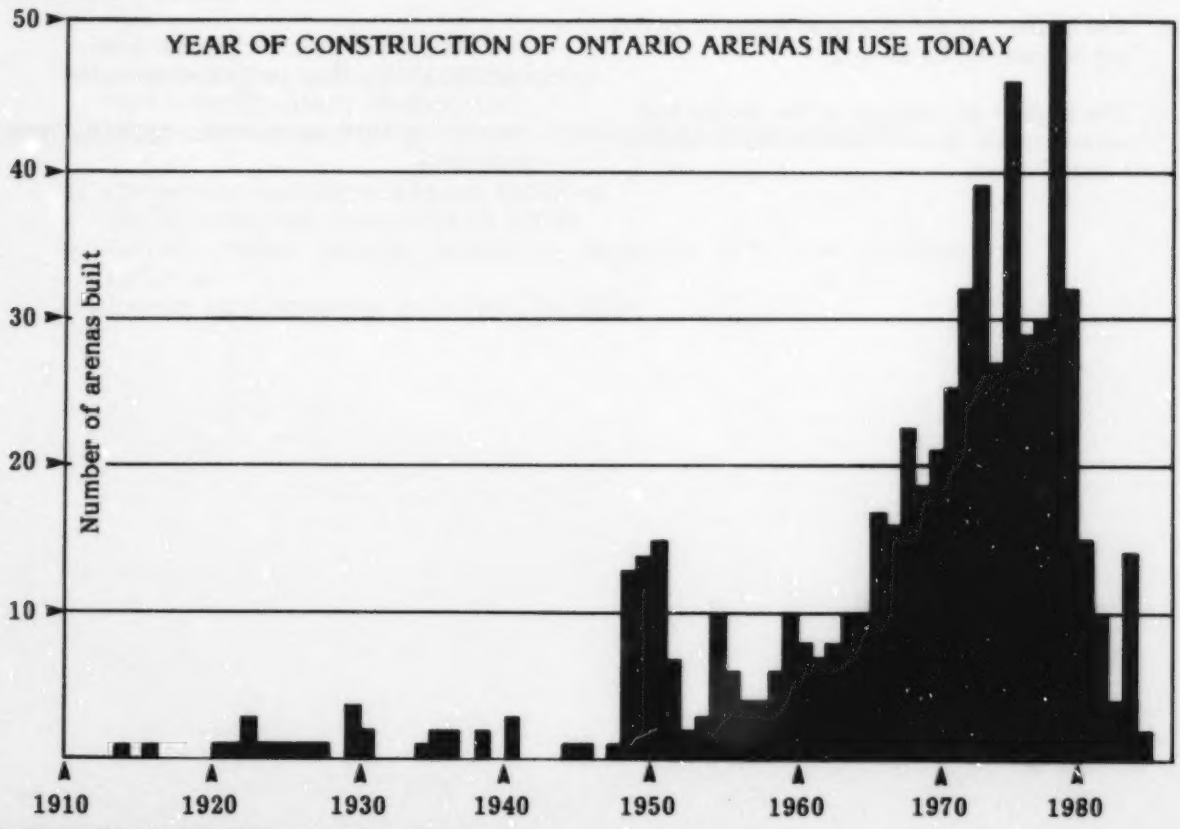
The 1960's and 70's have been generally perceived as "years of plenty" in North America. Governments, at all levels, spent vast amounts of capital developing a highly sophisticated infrastructure of public facilities and services.

Ontario was no exception to this capital intensive period. The number of arenas doubled between 1962 and 1971 and doubled again between 1972 and 1983. Swimming pools, community centres and other community recreation facilities also increased dramatically.

Between 1974 and 1983, Ontario municipalities invested an estimated $1.25 billion on parks and recreation facilities. During this same period, the Ontario government invested, in partnership with municipalities, more than $450 million (1983 $) on the development of new recreation facilities.

Major Municipally-Owned Recreation Buildings now Worth $1.5 Billion

The approximate current replacement value of all major municipally-owned recreation buildings in the province totals $1.5 billion (1983 $). Two-thirds of this figure represents buildings that have been added in the past 25 years.[1] This amounts to a per capita value of $175 over the population of Ontario.



[1] This replacement value estimate was developed from an analysis of facilities in five case study municipalities across the province. Populations in these areas ranged from 7,000 to over a half million people. Replacement value estimates were based on values established for insurance purposes, adjusted to reflect a consistent under valuation. The estimate does not include buildings valued under $50,000 or service buildings related to municipal parks and recreation functions.

Other Public Recreation Facilities Worth Much More

It is important to point out that this $1.5 billion capital value of municipally-owned recreation buildings represents only a portion of the capital value of community recreation facilities owned and operated by public and quasi-public bodies. It does not, for example, include any estimate of:

- Municipally-owned and operated parks and facilities such as tennis courts and ball diamonds;
- Municipally-owned parks and recreation service buildings;
- Recreation buildings and facilities owned and operated by school boards, universities and colleges;
- Recreation buildings and facilities owned and operated by non-profit community groups and organizations such as the YMCA and YWCA, Lions Clubs, etc.

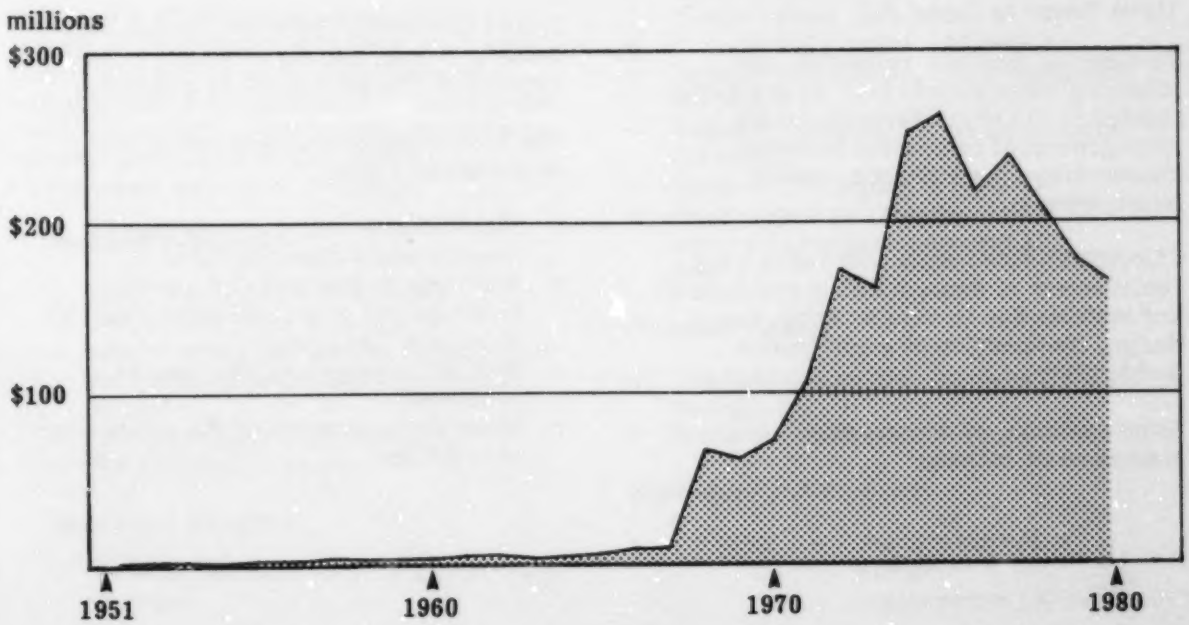
Potential for a False Sense of Security

Although new recreation facility development will continue, it is unlikely to match the intensity of the past 25 years. Municipal capital spending reflects this "slow down". Between 1974 and 1979, for example, expenditures averaged almost $250 million (1983 $) per year. Since then, the annual figure has dropped to approximately $125 million (1983 $). Provincial dollars for recreational facility development have followed a similar pattern.

Despite this trend of fewer capital dollars for recreation facilities, it is important not to lose sight of TWO significant resource needs:

1. Conservation of existing facilities.
2. Meeting new community needs.

MUNICIPAL CAPITAL EXPENDITURES FOR RECREATION (in 1982 dollars)



BUILDING CONSERVATION WILL BE IMPORTANT

Facility Owners' Responsibilities

As buildings age, more money is required to keep them safe and usable. Facility owners and managers should therefore have a clear understanding of activities that will keep their buildings in good condition and how much should be budgeted (and when) for these. A simple and consistent set of terms for describing such activities is essential for this process.

The building management industry uses many terms to describe activities that deal with the physical condition and management of buildings, terms such as "repairs", "maintenance", "deferred maintenance", "preventative maintenance", "renovation", "rehabilitation" and "capital improvements". Unfortunately, there is great confusion about the meaning of each of these terms so that their usage is inconsistent.

Three Terms to Cover All

To clear up these discrepancies, the following three terms cover all activities related to the physical condition and management of recreation buildings: conservation, maintenance, capital improvements.

CONSERVATION deals with repairs and replacement of major building components and systems due to natural aging, faulty design, construction or maintenance problems.

Some examples of conservation requirements include:

- Replacing a roof that has deteriorated over time.
- Repairing caulking materials used between building elements.
- Replacing bearings in motors that have simply worn out.
- Repairing deteriorating automatic control contacts.
- Replacing old boilers and furnaces.

MAINTENANCE comprises all of the day-to-day activities that care for the physical fabric of a building, including minor repairs.

A few examples of maintenance tasks include:

- Grass cutting and painting.
- Replacing blown-off roof shingles, broken glass and miscellaneous hardware.
- Preventative service to mechanical equipment, filters, lubrication, and compressor pumps.
- Regular inspection of all parts of the building and the equipment.

CAPITAL IMPROVEMENTS include only those activities and expenditures that upgrade or change the use of a facility.

The most common examples of capital improvements are:

- Physical alterations of buildings to accommodate changing uses.
- Additions to increase the size of buildings and to provide additional user or service facilities.
- Internal changes to either spaces or equipment.
- Major improvements to the appearance of buildings.

Building Components

1. **Weather Protection** - the separation of the outdoor from the indoor environment including the provision for unusual environments as found in swimming pools. The roofs, walls and windows are the principal elements.

2. **Structural Integrity** - elements of the building which are used for support including steel, wood or concrete beams, columns, trusses, joists, and walls, above or below ground. Since many structural elements are sensitive to damage from water, these structural elements are closely related to weather protection.

3. **Building Systems** - those parts of the building which provide electrical, plumbing and drainage, ventilation, heating, air conditioning, or special environmental treatment, as well as the appropriate controls for this equipment.

4. **Parking Structures** - particularly parking garages, but can include surface parking lots.

5. **Movement Systems** - elevators and escalators.

6. **Occupant Safety** - fire alarm systems, products of combustion detectors, emergency lighting and stand-by generators.

7. **Equipment and Fitments** - specialized equipment such as ice making plants in arenas, but can also include cabinetry for storage and related counters.

Building Conservation Costs: Arena

Building: A 20,000 square-foot, single storey, flat roof (open web steel joist with tongue and groove wood deck carrying a built-up roof) building with load bearing and steel frame walls, electric radiant spectator heating, and artificial ice. (1983 replacement value = $1,500,000).

Weather Protection

- Roof replacement (20 years)
- Major roof repairs (5 years)
- Major repair and partial replacement of windows, doors and frames (10 years)
- Masonry repairs (15 years)
- Re-caulking (5 years)

Structural Integrity

- Painting exposed structural elements (5 years)

Building Systems

- Replace electric spectator heaters (15 years)
- Major repair or replace exhaust fans (12 years)
- Repair or replace exhaust grilles (7 years)
- Major repair or replace furnaces for change rooms (12 years)
- Replace light ballasts (5 years)
- Replace electric switching equipment (25 years)
- Replace domestic hot water heaters (10 years)
- Replace 25% piping (15 years)
- Major repair or replace dehumidification equipment (12 years)

Occupant Safety

- Upgrade due to code changes (20 years)
- Replace equipment (30 years)

Equipment and Fitments

- Ice plant - major repairs (15 years)
  - replacement (30 years)

Total conservation costs

- $25.83 per m^2 per year ($2.40 per ft^2 per year)
- 3.2% building replacement value per year

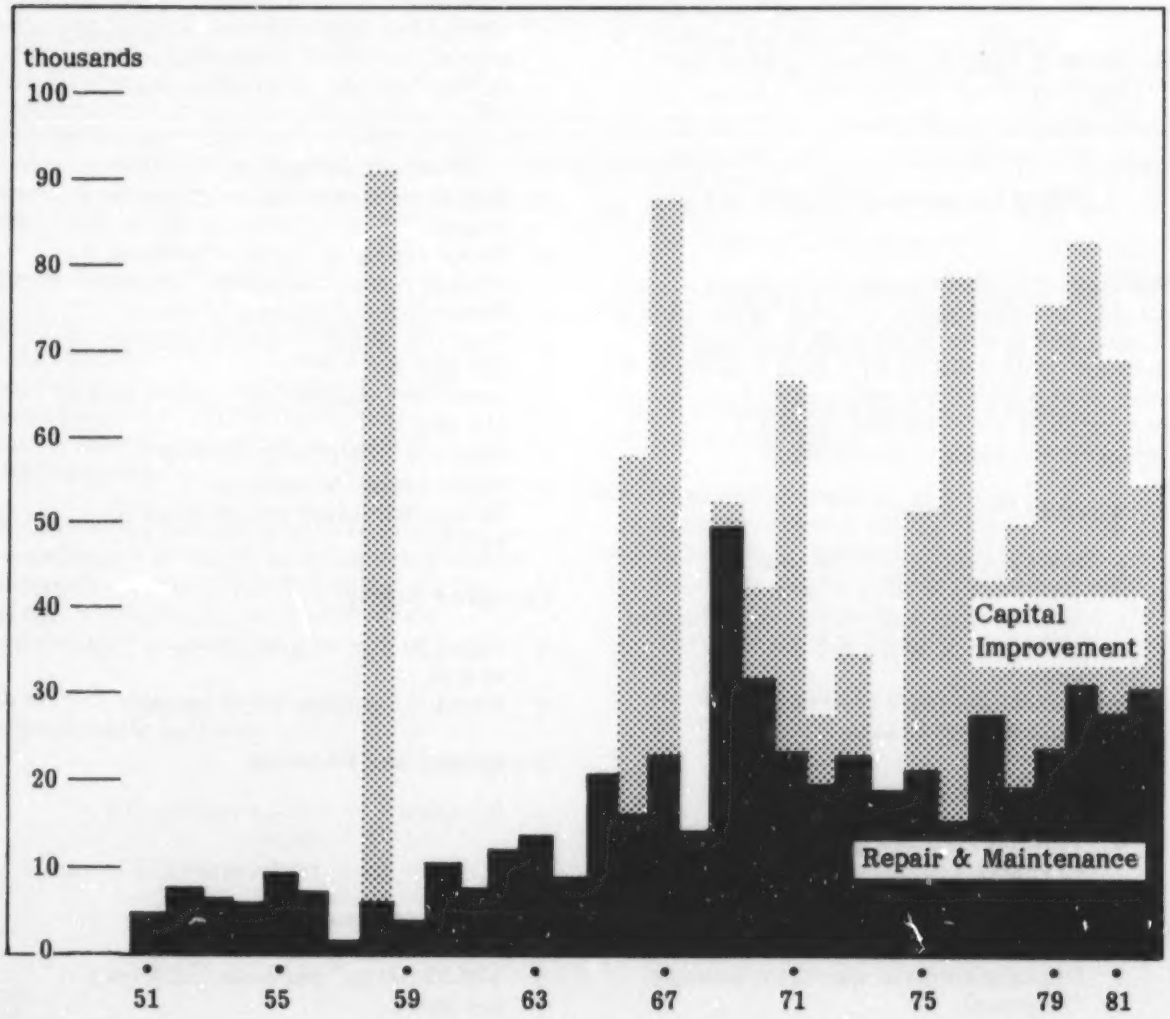
The Aging Factor and Conservation Requirements

It is difficult to generalize about the future conservation requirements for recreation buildings. While age is not the only influencing factor, it is certainly a major one. Put simply, as buildings get older, more and more money has to be spent to keep them safe and usable.

Even recreation buildings which are designed, constructed and maintained properly will have conservation requirements as they age. For example, bituminous roofs ultimately require replacement; unit masonry walls and the masonry joints require repointing; building systems, both mechanical and electrical, wear out or require upgrading to meet current safety codes.

A review of the 30-year operating history of an arena built in 1950 showed that maintenance and repair costs doubled after the first ten years of operation and doubled again in the following ten years.

ARENA LIFETIME COSTS
(in 1982 dollars)



Age is Not the Only Factor: "Problem" Buildings

Although most municipalities take good care of their recreation buildings, they are powerless against facilities that were poorly designed and constructed from the start. Design and construction faults of these "problem" buildings usually appear within the first five years of building life.

Certain building types are more susceptible to problems than others, especially those with inside environmental conditions that require continual maintenance. Poorly designed and constructed picnic shelters, for example, do not pose the potential problems that affect badly constructed indoor swimming pools or enclosed artificial ice arenas.

Indoor Swimming Pools

The most potentially problematic building is the indoor swimming pool. By their very nature, indoor pools produce environments which can contribute dramatically to building deterioration and high conservation costs. The pool enclosure, water circulation equipment, lighting, heating and filtration are all components which must be of appropriate quality and must be rigorously maintained. A swimming pool room is a high humidity space and the design of the enclosure and the mechanical and electrical services must take full recognition of this.

The condensation of water vapour is the cause of most problems associated with pools. It will occur on any cool surface such as walls, ceiling, windows or on equipment such as lights, fans and exhaust grilles. Run-off from walls and windows can also damage surrounding materials or enter into the walls and window materials to contribute to deterioration.

Air leakage can transport water vapour into walls and roofs producing interstitial condensation. This internal condensation, not visible to surface inspection, is responsible for building deterioration in the form of corrosion, masonry failures and efflorescence, wet freezing damage, paint blistering and failure of the roofing system. Many so-called roof and wall leaks are more frequently the result of interstitial condensation than direct water entry from

Building Conservation Costs: Indoor Swimming Pool

Building: A 10,000 square-foot, single storey steel frame building with sloping built-up roof and combination masonry and metal walls. (1983 replacement value = $900,000).

Weather Protection

- Roof replacement (15 years)
- Major roof repairs (5 years)
- Major repairs and partial replacement of windows, doors and frames (10 years)
- Masonry repairs (10 years)
- Re-caulking (5 years)
- Major repair air seals (5 years)

Structural Integrity

- Painting exposed structural elements (5 years)

Building Systems

- Repair light fixtures (15 years)
- Repair space heaters (8 years)
- Major repair or replace fans (10 years)
- Replace domestic plumbing (15 years)
- Replace hot water heaters (10 years)
- Major repair or replace make up air system (10 years)
- Major repair controls (10 years)
- Major repair pool filters/pumps/distribution piping (15 years)

Occupant Safety

- Upgrade due to code changes (20 years)
- Replace equipment (30 years)

Total conservation costs

- $28.53 per m^2 ($2.65 ft^2 per year)
- 2.9% building replacement value per year

the exterior. Poorly considered thermal bridges in principal structure members can further contribute to the problems.

Of prime importance is the initial design of the pool enclosure with particular regard for high humidity conditions. Ventilation of the pool space is critical, regardless of the building enclosure design.

While the use of wall and roof designs that can tolerate the swimming pool environment may cost more initially, the savings will be made over the life of the building through reduced maintenance and conservation expenditures.

Indoor Artificial Ice Arenas

Arenas are also high humidity spaces and, as such, many of the concerns around indoor pools are applicable to arenas. The problems due to moisture (water vapour) in arenas are many. For example, building equipment deteriorates faster. Interior paint on steel structured members deteriorates faster, thereby allowing corrosion to begin. Water vapour contributes to surface condensation on any cold surface and frost on the interior of arena walls and ceilings is common. This moisture can contribute to interstitial condensation and evidence of masonry deterioration both inside and outside can be traced to this problem in many existing buildings.

The initial evidence of excessive moisture in arenas is found in reports of fog or dripping. Fog occurs as warm moist air is drawn into the building when the building space and surfaces are colder than the exterior - a problem which can occur at any time of the year. The excessive moisture in the air can condense out onto any cold surface, and it is common to have the protective glass around an ice surface covered so heavy with water droplets that vision is obscured.

Dripping is a condition which arises from the melting of frost, from the continual accumulation of condensed water vapour on any cold surface or on drip points of the structure over the ice surface. Reducing the moisture content of the air through dehumidification is the common treatment. Ventilation as a means of removing moisture can be effective in cold weather. However, during mild weather it can contribute to the problem. The use of gas- fired spectator heaters also contributes to the problem since one product of the combustion of gas fuel is water. (The combustion of one pound of gas will result in one pound of water). Electric spectator heaters are better alternatives from this point of view.

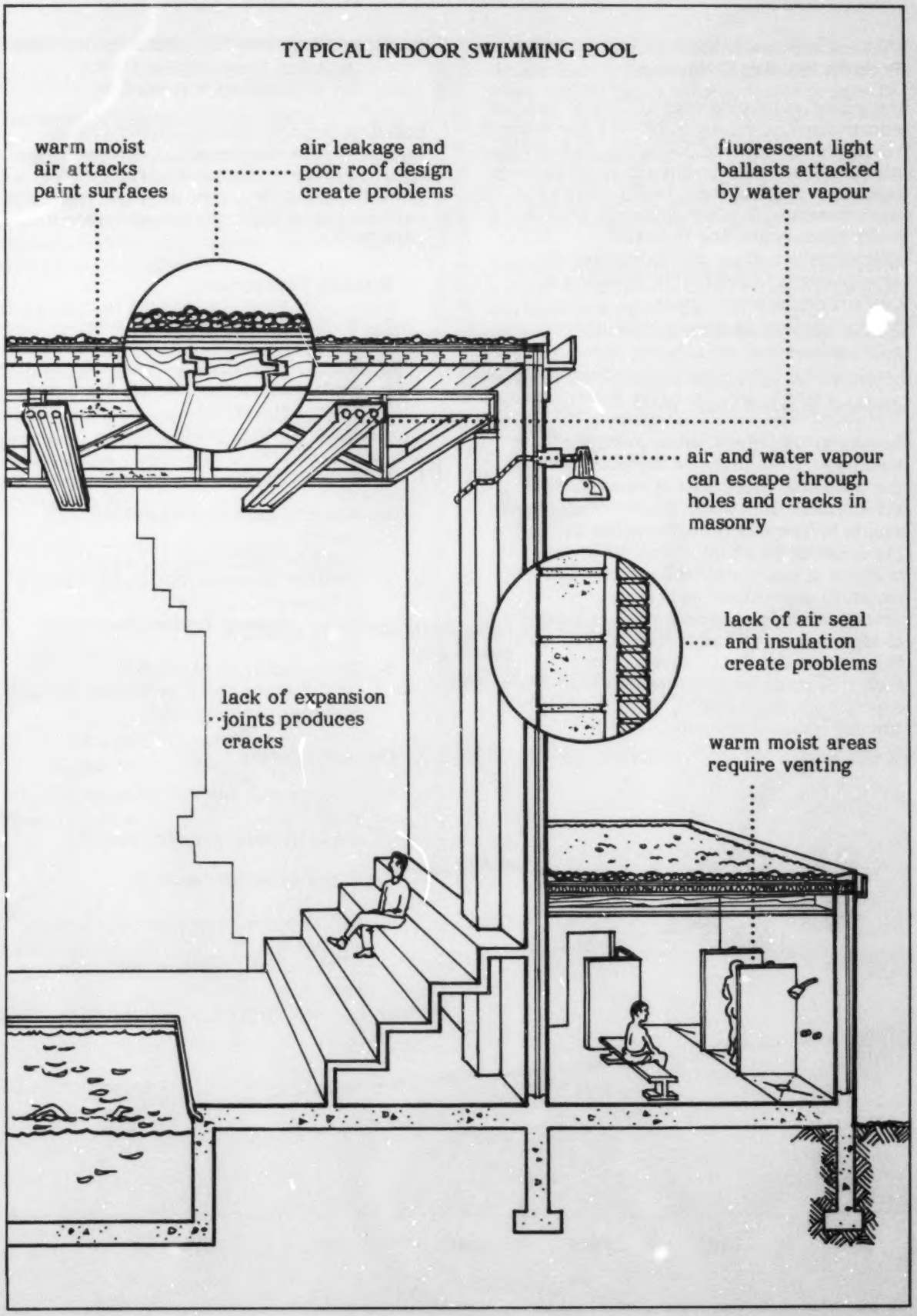
Problem Building Case Study

An indoor swimming pool in City X was constructed in the early 1970's. It has a replacement value today of approximately $750,000. In 1983, a part of the existing roof was replaced at a cost of $30,000. This was the direct result of faulty design and construction. Additional work is needed immediately to correct other building failures. These include:

o Replacement of balance of roof	$ 30,000
o Control of air leakage seal, improve wall insulation and repairs to roofing	105,000
o Add vestibule and suitable heating	6,500
o Restore caulkings	3,000
o Pool water heater	10,000
o Replace fluorescent lighting with suitable lighting	8,000
o Electrical mains and boxes	10,000
o Add dehumidification	70,000
	$242,500

(32% of total replacement value)

If these issues had been planned better in the original design and construction of the building, the building's initial cost would have been approximately 5% higher (i.e. $40,000 1983 dollars) and would thereby have eliminated the need for spending almost a quarter of a million dollars to correct the problems 10 years later.


TYPICAL INDOOR SWIMMING POOL
warm moist air attacks paint surfaces
air leakage and poor roof design create problems
fluorescent light ballasts attacked by water vapour
air and water vapour can escape through holes and cracks in masonry
lack of air seal and insulation create problems
lack of expansion joints produces cracks
warm moist areas require venting

Problem Building Case Study

An indoor swimming pool in City Y that was constructed in the early 1970's has a current replacement value of $580,000. $60,000 has already been spent on the repair of exterior masonry resulting from faulty design and workmanship. Further work will have to be undertaken according to better specifications at an estimated cost of approximately $105,000 or 18% of the current replacement value.

Problem Building Case Study

Arenas are, by their nature, simpler buildings. Even problem arenas don't have the dramatic conservation costs which are attributable to problem pools. Medium size arenas have current replacement values in the order of $1.25 to $1.75 million. A problem arena would be one with high moisture content, some masonry deterioration, poor ventilation in shower and change rooms, an inappropriate roof and fluorescent lighting. Most of these problems could be corrected with an expenditure of $130,000, or 7.0% to 10% of current replacement cost.

Building Conservation Costs: Community Centre

Building: A single storey, 14,000 square-foot, concrete slab on grade, load bearing masonry and steel frame building, with a forced air heating and cooling system using heat pumps. (1983 replacement value = $600,000).

Weather Protection

- Roof replacement (20 years)
- Major roof repairs (5 years)
- Major repairs and partial replacement of windows, doors and frames (12 years)
- Masonry repairs (20 years)

Building Systems

- Replace switching equipment (25 years)
- Replace 25% piping (15 years)
- Replace domestic hot water heaters (10 years)
- Major repair or replace fans (15 years)
- Major repair or replace air conditioning equipment, heat pumps and controls (10 years)

Occupant Safety

- Upgrade due to code changes (15 years)
- Replace equipment (30 years)

Total conservation costs

- $17.22 per m^2 per year ($1.60 per ft^2 per year)
- 3.7% building replacement value per year

CHANGING COMMUNITIES

Tomorrow's Customers Are Older

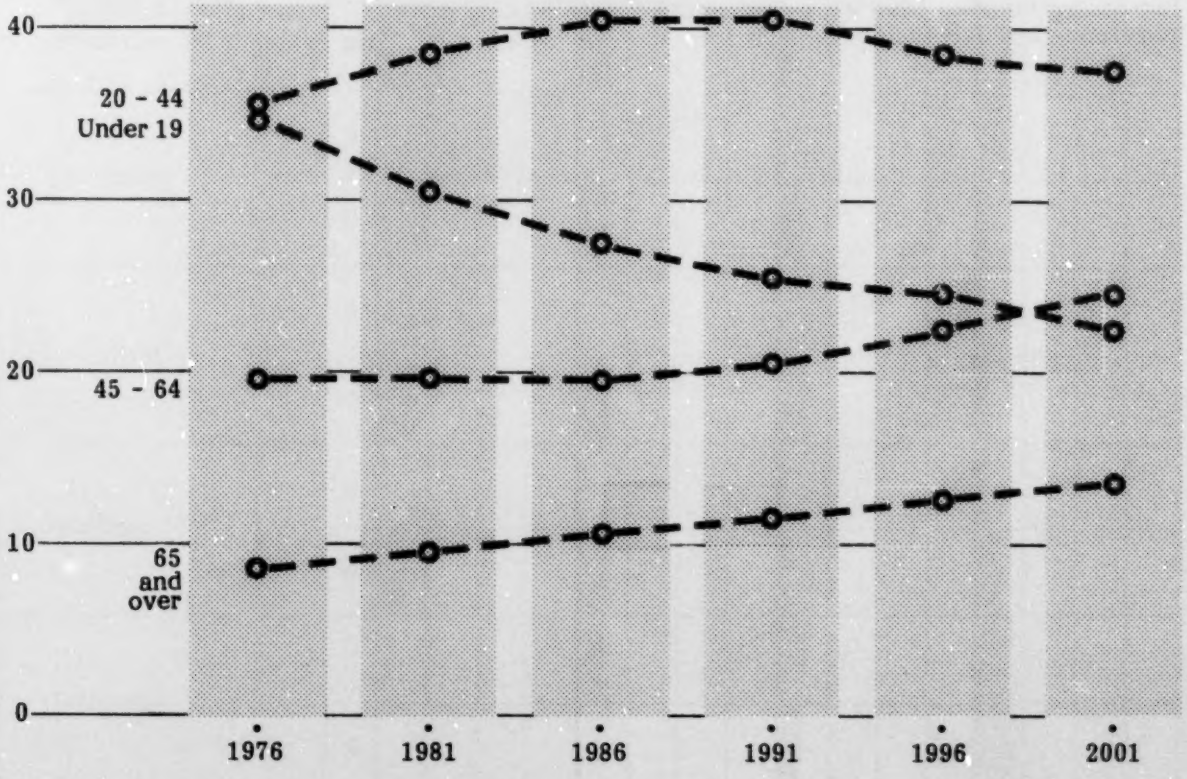
Community recreation constantly relies on the needs of its local residents to determine its programs and services. When the characteristics and needs of the community change, recreation programs and facilities change accordingly.

A significant characteristic of a changing community is its changing population, and Ontario is witnessing many examples. Numerous recreation facilities throughout the province were designed to accommodate the post-war "baby boom" needs. Now, providers of community recreation have to consider the implications of the aging "baby boom" population and its impact on recreation facilities.

The age structure of Ontario's population will continue to play a significant role in determining the future of community recreation. It is predicted that by 2001 there will be half a million fewer people 19 years of age and under in Ontario than there were in 1981. At the same time, the number of people 65 years and older will increase approximately half a million with a parallel growth of almost three-quarters of a million people aged 45 to 64.

Age will not be the only factor to influence the nature of community recreation over the next five to 10 years. Changing employment trends, such as variable working hours, job-sharing, increasing rates of participation by women and chronic unemployment will combine to exert significant pressures. Fewer marriages and more divorces will foster a large core of singles and one-parent families who will require different leisure opportunities. Similarly, changes in size, type and density of households will require new and innovative initiatives by the providers of community recreation.

POPULATION PROJECTIONS BY AGE GROUP
1976 - 2001



Recreation will be Important and Different

On the basis of simple population growth, the demand for public funds to build additional new recreation facilities could be significantly less over the next five to 10 years. If this were true, we might be in a somewhat better position to deal with the increasing need to conserve existing facilities. However, past experience and a careful look at demographic and changing life-style trends makes this assumption questionable.

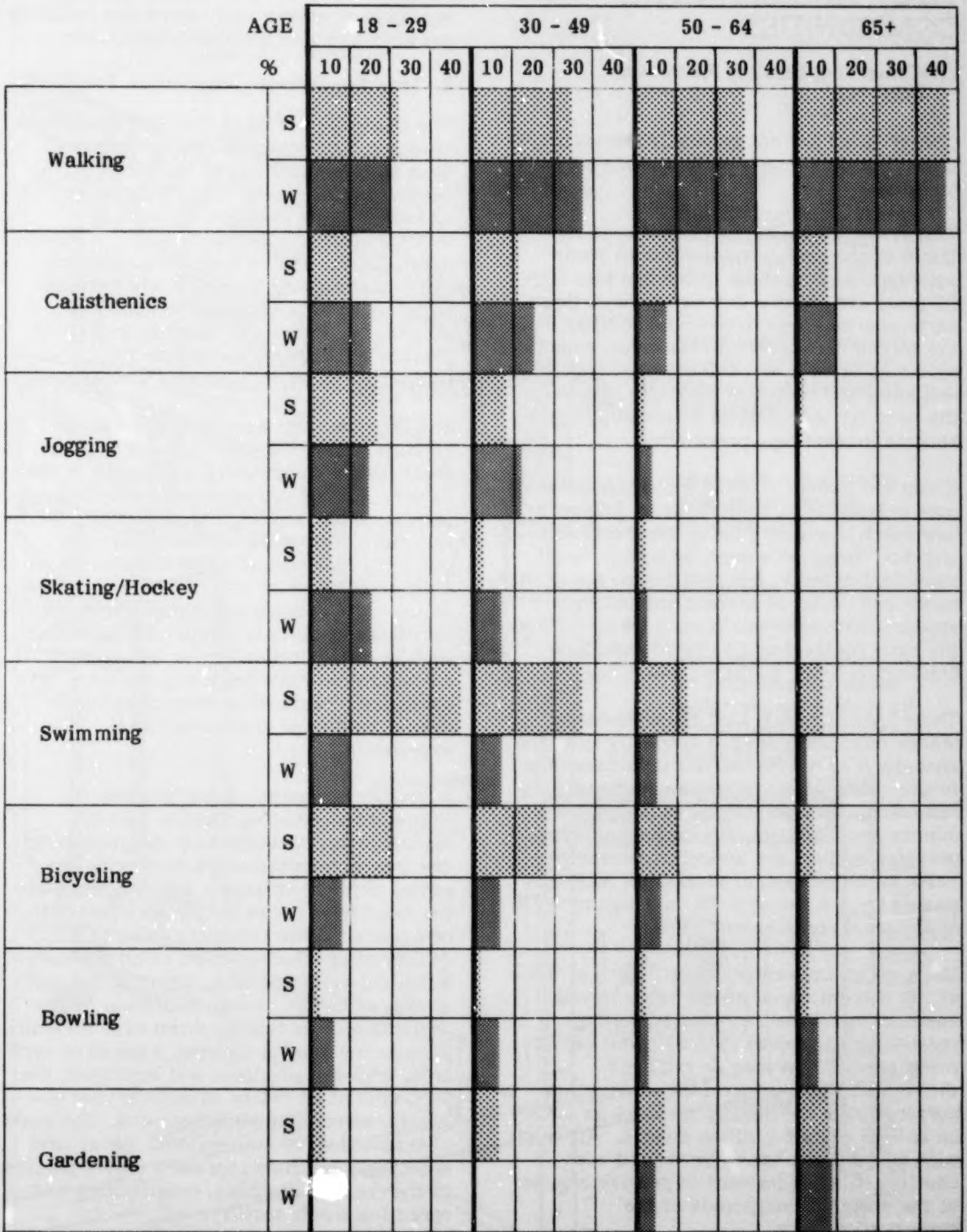
Society is placing an ever increasing emphasis on fitness and health at all ages and the trends toward earlier retirement, shorter work weeks and higher levels of unemployment contribute to an overall increase in the amount of discretionary time available for recreational activities. In all likelihood, the demand for community recreation opportunities over the next five to 10 years will not remain static. Not only will the demand for new types of recreation opportunities likely increase; the volume of demand will rise as well.

We are already beginning to observe increasing demands from a growing adult population and decreasing demands from a relatively smaller child population. Although individuals 30 years of age and older are requiring more recreational opportunities, they participate in activities far less than those 29 years of age and younger. Unlike their younger counter-parts who prefer "facility-dependent" sports acitivities such as hockey, soccer, basketball and figure skating, 30-plus individuals prefer activities such as walking, bicycling, swimming, calisthenics and jogging. These activities are not necessarily dependent upon community recreation facilities. Perhaps this factor helps to explain recent evidence from several communities suggesting a decline in the demand for indoor ice arenas.

As Ontario's population continues to change, the traditional uses of community recreation facilities will need to change as well. Different types of facilities will be required with the prospect of certain types of existing facilities becoming under-utilized. If declining demand results in lower revenues, the fixed operating costs and increasing maintenance and conservation costs of these facilities will place a heavy burden on communities, leaving them less financially flexible in meeting changing demands for recreation.

PARTICIPATION IN ACTIVITIES BY AGE

1981



S = Summer W = Winter

CHALLENGES OF THE AGING PLANT AND CHANGING COMMUNITIES

1. Conserving Existing Recreation Facilities

Conservation has not generally been a major issue regarding municipally-owned recreation buildings.

This is not surprising given that over two-thirds of the replacement value of these buildings reflects those which are less than 25 years old. With a few exceptions, these particular buildings have required little in the way of conservation. However, over the next five to 10 years, this stock of buildings will enter the period of their life cycle when the need for such capital interventions will become increasingly prevalent.

Given the loose and often inconsistent terms used in budgets, it is difficult to determine how much is actually being spent on conservation activities. However, by adding up all municipal expenditures relating to the maintenance and repair of recreation buildings, it appears that anywhere from 0.3% to 1.5% of the total replacement value of municipal buildings is being budgeted annually.

These figures reveal that the amounts of money municipalities are currently spending annually may not be sufficient to cover the future conservation measures required for reasonably well designed, constructed and maintained buildings. From the examples provided earlier, the annual conservation costs for three typical recreation facilities ranged from a low of 2.9% to a high of 3.7% of the total replacement value.

Using an annual reinvestment figure of 3% of the current replacement value for all municipally-owned recreation buildings, it is reasonable to project that the total capital reinvestment that may be required throughout the province for conservation purposes over the next 10 to 15 years could be as high as half a billion dollars. Although such an estimate has to be viewed with caution, it is put forward to provide a sense of the potential magnitude of the conservation issue.

Clearly, all partners share a stake in the conservation of existing community recreation facilities. Strategies must be developed and resources must be made available to ensure that recreation buildings are kept in a safe and usable condition.

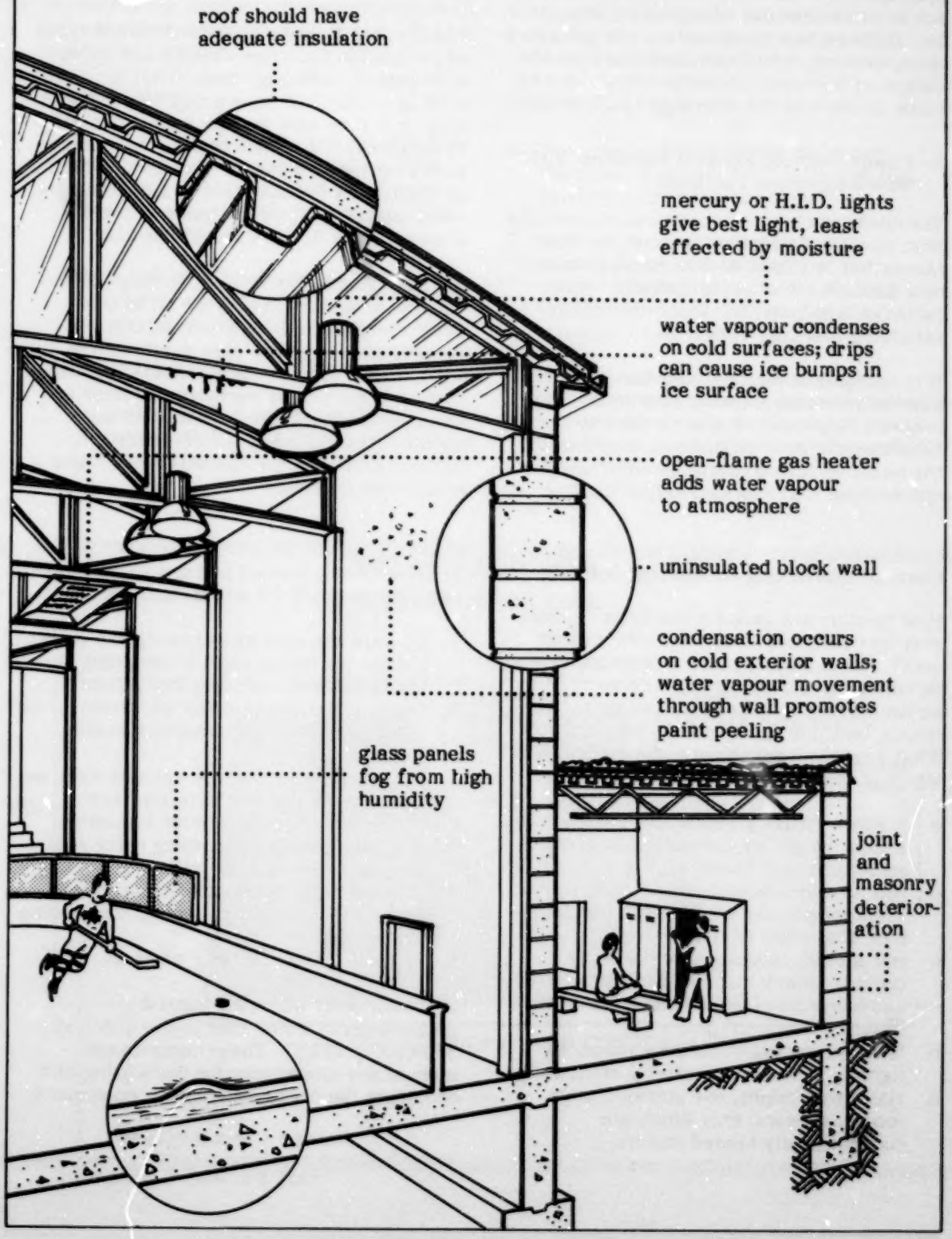
2. Utilizing Existing Recreation Facilities

The changes in demand that will result from changing user needs and characteristics have serious implications for existing recreation facilities. Early indications already suggest that new recreation buildings offering different types of leisure opportunities will be necessary. In some instances, existing facilities will become under-utilized or decrease in demand. Meanwhile, others will be pressured to provide different opportunities for recreation to vastly different user groups.

The providers of community recreation facilities have numerous options available to them to ensure effective utilization in the future. Already managers are adopting new policies and procedures to make their facilities more accessible and attractive to potential user groups. New and innovative programming which offers unique recreation experiences is being applied in traditional recreation facility settings. Adjustments such as energy conservation and staffing modifications have helped to reduce operational costs while improving the overall quality of the recreational experience.

In instances where it is not possible to revitalize an existing facility through management, operational or programming changes, communities are modifying the actual physical structure and amenities of the facility so it can better accommodate new users. These changes can be as minor as upgrading a locker-room at an arena by installing better lighting, painting the walls or improving the shower facilities. Major projects such as tearing down exterior walls, introducing natural lighting, expanding deck area, adding a whirlpool and modifying the pool-tank of an indoor swimming pool also greatly enhance the environment. The costs of renovations or conversions may at first seem high, but they represent only a portion of the costs of planning, constructing and operating a new facility.

TYPICAL INDOOR ICE ARENA


roof should have adequate insulation
mercury or H.I.D. lights give best light, least effected by moisture
water vapour condenses on cold surfaces; drips can cause ice bumps in ice surface
open-flame gas heater adds water vapour to atmosphere
uninsulated block wall
condensation occurs on cold exterior walls; water vapour movement through wall promotes paint peeling
glass panels fog from high humidity
joint and masonry deterior-ation

Providers of community recreation facilities will need to carefully scrutinize their management, programming and operational practices to ensure that existing facilities are as attractive and effective as they can be. If these, and other options are not acted upon, existing recreation facilities face the danger of becoming obsolete and of limited value to users of the next five to 10 years.

3. Complimenting Existing Facilities with New Recreation Facilities

The needs of changing communities over the next five to 10 years will be met by those recreation facilities now in place, plus any new facilities that are introduced. New facilities will bear the responsibility of satisfying new user demands.

It is recognized that the adoption of innovative management practices and the renovation and conversion of existing facilities will only go so far in meeting all the needs of future users. Similarly, it is appreciated that new recreation facility development will continue. The challenge that providers of facilities face is how to balance these two components of facility provision.

Clearly, the future demands different types of recreation facilities - unlike any we've seen before. Although traditional facilities such as arenas will have a significant role to play, it will be new facility types that will be required. Consequently, communities with long-range plans for the development of traditional facilities may wish to reassess these plans. More of the same is not the answer to the future's facility needs.

Similarly, municipalities alone may not be capable or willing to provide all of the future recreation facilities that their communities require. New partnerships with other public and private sector groups may emerge. These partners will need to carefully examine the potential of the current stock to meet future needs and balance this with the development of new innovative facilities.

Costs of Converting an Existing Building

How flexible are existing buildings? Could they be converted to accommodate other uses? For example, could an existing arena be converted for year-round use to accommodate a range of activities such as tennis, badminton, volleyball, jogging, etc. What changes would have to be made? What would it cost? Let's assume the arena:

- Is approximately 100' x 200' in size with a clear height to the underside of the structural roof beams of 30';
- Has an uninsulated built-up roof over wood tongue and groove deck carried on long span steel joists;
- Has a steel column structure with concrete block walls to a height of 10' and uninsulated metal siding above the concrete block to roof;
- Has high pressure mercury vapour lighting in the main activity area; and
- Has lower height, one storey change rooms, showers, etc. which are conventionally heated and lit.

To convert this arena for the noted types of uses, the building owner would have to:

1. Insulate the roof by removing the stone ballast, installing rigid foam board insulation and replacing the ballast;
2. Insulate the metal siding on interior using fiberglass and provide suitable interior liner;
3. Insulate concrete block walls on exterior and provide suitable exterior cover;
4. Provide suitable perimeter insulation;
5. Provide heating and cooling using roof top gas fired package units;
6. Provide or increase building services;
7. Discontinue (mothball) use of ice-making plant; and
8. Provide a suitable floor surface.

It is estimated that such capital improvements would cost in the order of $300,000 (1983 $). These costs do not include any allowances for decorating and providing the necessary support equipment.

Challenges for Community Recreation Facilities

Everyone concerned with community recreation can appreciate the importance of understanding the challenges that face recreation facilities.

Aging Buildings

1. Do we have a thorough understanding of the physical condition of our existing buildings? What will have to be done to conserve these buildings over the next five to 10 years?

2. What can we do to avoid "problem buildings" in the future and to minimize the conservation costs of new buildings?

Changing Communities

3. Do we know what the demographic characteristics of our community will be in five to 10 years?

4. Do we understand how the recreation needs of our community are likely to change in the future?

5. How will changes in our community affect the usefulness of our existing recreation facilities?

Cost-Revenue Squeeze

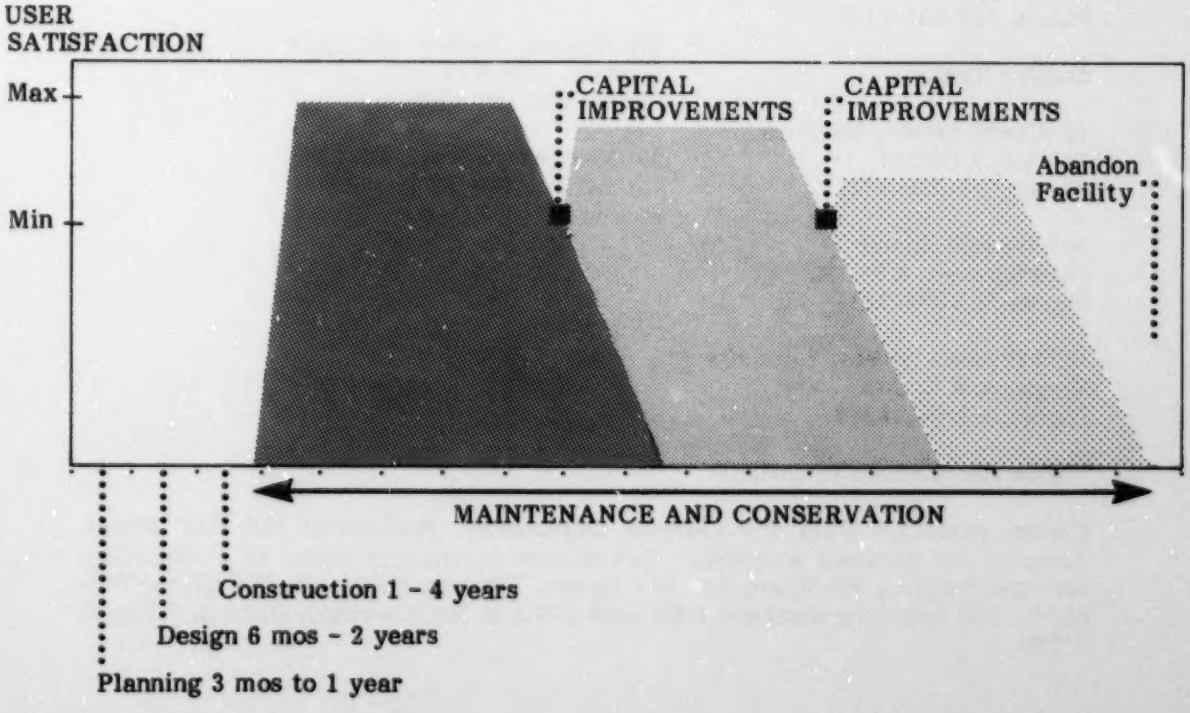
6. How can we set aside the necessary financial resources for conserving our existing recreation buildings?

7. How can we gather the financial resources for new facilities or for capital improvements to our existing facilities to meet the new needs of our changing community?

8. How can we co-operate with and encourage new partners from the public and private sectors to develop the best community recreation services possible for our community?

BUILDING LIFE CYCLE

Occupancy 20 - 70 years



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